

AMENDMENTS TO THE CLAIMS

A listing of the claims presented in this patent application appears below. This listing replaces all prior versions and listing of claims in this patent application.

Claim 1 (currently amended): A fuel reforming apparatus comprising:

a reforming unit including a reforming catalyst ~~in which a reforming reaction~~ for steam-reforming of a raw material hydrocarbon containing hydrogen and sulfur compounds to generate a hydrogen gas ~~proceeds by adding water to said raw material;~~

a heater for heating said reforming unit; and

a control unit for controlling the supply of said raw material to said reforming catalyst on the basis of the temperature of the reforming catalyst, and for controlling the supply of an inert gas or water to said reforming catalyst;

wherein, when said reforming catalyst reaches a predetermined temperature, said control unit operates to stop said supply of said raw material to said reforming catalyst, and to allow said inert gas or water vapor to be supplied to said reforming catalyst while said reforming unit is being heated.

Claim 2 (original): The fuel reforming apparatus in accordance with claim 1, further comprising a recovering gas supply unit for supplying an inert gas or water vapor to said reforming unit,

wherein activity of said reforming catalyst is recovered by heating said catalyst while supplying said inert gas or water vapor to said reforming unit.

Claim 3 (cancelled).

Claim 4 (currently amended): The fuel reforming apparatus in accordance with claim 1, further comprising a sensor for detecting a concentration of hydrogen gas, wherein activity of

said reforming catalyst is recovered when a concentration of hydrogen gas ~~becomes higher than~~ is below a predetermined concentration.

Claim 5 (original): The fuel reforming apparatus in accordance with claim 1, further comprising a desulfurizer for removing a sulfide from said hydrocarbon.

Claim 6 (previously presented): The fuel reforming apparatus in accordance with claim 1, wherein said reforming catalyst is heated at a temperature in the range of 500 to 800°C.

Claim 7 (new): A method of recovering the activity of a reforming catalyst due to contamination by sulfur compounds in steam-reforming a hydrocarbon fuel, comprising the steps of:

contacting said catalyst with said hydrocarbon fuel until the catalyst reaches a predetermined temperature,

terminating the flow of said hydrocarbon fuel,

heating the catalyst to maintain the temperature of the catalyst at least at the predetermined temperature, and

contacting the catalyst with water vapor or an inert gas to recover the activity of the reforming catalyst.

Claim 8 (new): The method of claim 7, wherein the water vapor is in the form of steam.

Claim 9 (new): The method of claim 7 wherein the inert gas is selected from the group consisting of argon, helium and nitrogen.

Claim 10 (new): The method of claim 7, wherein the temperature of the catalyst is in the range from 500° to 800° C.